

1231-218



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Sally Mackenzie

Serial No. 10/806,038

Filed: March 22, 2004

For: **IMPLEMENTATION OF A
MITOCHONDRIAL MUTATOR**

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Art Unit: 1638
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)Examiner: A. Kubelik
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DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner of Patents
P O Box 1450
Alexandria VA 22313-1450

Sir:

I, Sally Mackenzie, of 920 N. 88th Street, Lincoln, Nebraska 68505, hereby declare that:

Since 1982, I have been involved in scientific research on cytoplasmic genetics of plants.

I am the inventor of the invention described and claimed in the above-identified application and am familiar with the Office Action dated September 26, 2006, in which the Examiner alleges that claim 15 is anticipated by 35 U.S.C. 102(b) by Redei (1973, Mutation Res. 18:149-162) taken with the evidence of the instant specification. The Examiner also alleges that claim 15 is anticipated by 35 U.S.C. 102(b) by Martinez-

Zapater et al (1992, Plant Cell 4:889-899) taken with the evidence of the instant specification.

I have thoroughly reviewed both the Redei and Martinez-Zapater references and I submit that neither the Redei nor Martinez-Zapater references observed cytoplasmic male sterility associated with the chm (msh1) mutant phenotype. Redei mentions male and female partial sterility, however, the sterility is not cytoplasmic and is only observed in fully chlorotic (albino) sectors. This evident sterility is the direct consequence of the depletion of chloroplast function in the few sectors that are albino. These sectors also show floral abnormalities. In addition, the male sterility mentioned in Martinez-Zapater is also not cytoplasmic and, as stated in the Martinez-Zapater report "completely chlorotic sectors lacking green subsectors...produced flowers that were male sterile" (page 890, paragraph 2). Again, these sectors are deficient in functional chloroplasts, leading to abnormal floral development. In fact, in the following sentence, Martinez-Zapater refers to seedlings "derived from self-fertilized variegated plants", another indication that *chm* mutant plants are not truly cytoplasmic male sterile (self-fertilization would not be possible). Thus, the cytoplasmic male sterility phenotype of the mutant of the present invention, characterized by male sterility of the entire plant independent of any variegation phenotype, and heritably stable over several plant generations, is distinct from the phenotypes mentioned in both the Redei and Martinez-Zapater references. Therefore the present invention is novel.

I, the undersigned, declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful

false statements and the like so made are punishable by fine or imprisonment, or both,
under section 1001 of Title 18 of the United States Code and that such willful false
statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 11/20/06

Sally Mackenzie
SALLY MACKENZIE